

**Notice of Allowability**

Application No.

09/745,708

Examiner

Christopher R. Magee

Applicant(s)

CHEN ET AL.

Art Unit

2653

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/21/2005.
2. ☒ The allowed claim(s) is/are 1-8 and 17-19 (renumbered 1-11).
3. ☒ The drawings filed on 12/21/2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The reply filed 03/21/2005 was applied to the following effect: All relevant objections and rejections are withdrawn as being satisfied.

### *Reasons for Allowance*

3. Claims 1-8 and 17-19 are allowed (renumbered as claims 1-11, respectively).

The following is an examiner's statement of reasons for allowance:

This application is for an INSULATION LAYER STRUCTURE FOR INDUCTIVE WRITE HEADS AND METHOD OF FABRICATION.

- **Claim 1** specifies a disk drive write head, which requires:

*“an insulation shell layer on the entire photoresist insulation layer, said insulation shell layer conforming to the contours of said photoresist insulation layer, the insulation shell layer being formed of a dielectric material having a lower milling rate than a milling rate of the photoresist insulation layer, and a top pole on said insulation shell layer, the top pole having an apex angle substantially defined by the photoresist insulation layer.” and;*

- **Claim 5** specifies a disk drive write head, which requires:

*“an insulation shell layer on the entire photoresist insulation layer, said insulation shell layer conforming to the contours of said photoresist insulation layer, the insulation shell layer being formed of a dielectric material having a lower milling rate than a milling rate of the photoresist insulation layer; and a top pole on said write gap layer, the top pole having an apex angle substantially defined by the photoresist insulation layer.” and;*

- **Claim 17** specifies a computer disk drive having a write head, which requires:

*“an insulation shell layer on the entire photoresist insulation layer, said insulation shell layer conforming to the contours of said photoresist insulation layer, the insulation shell layer being formed of a dielectric material having a lower milling rate than a milling rate of the photoresist insulation layer, the photoresist insulation layer substantially defining an apex angle of the top pole.”*

Aboaf '106 discloses an insulating material [38] separates the two rows of coil turns [20a], [20b] and also provides support for the P2 layer [16] above the coil turns. The conductor turns [20] can be made of an electrically conducting material, such as copper or gold. The electrically insulating material [38] advantageously comprises hardened photoresist [col. 5, lines 64 to col. 6, line 3]. Aboaf '106 also teaches that both layers [38a] and [38b] are made of photoresist. Both photoresist layers [38a], [38b] surround the coil turns [20a] and [20b].

Watanabe '046 teaches  $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ ,  $\text{Si}_3\text{N}_4$ ,  $\text{Ta}_2\text{O}_5$ , and  $\text{AlN}$  (i.e., dielectric materials) exhibit a low milling rate and excellent electric insulation properties (col. 23, lines 54-58). However, Watanabe '046 does not teach, suggest or disclose a top pole having an apex angle substantially defined by the photoresist insulation layer as claimed in the present invention.

Moreover, photoresist is an organic polymer. The dielectric materials of Watanabe '046 are inorganic. There is no teaching or suggestion in either reference that substitution of an inorganic material with an organic material would be appropriate. Coil [20a] would be surrounded with organic material and coil [20b] would be surrounded with inorganic material. This selective mismatching is not taught or disclosed in any of the cited references.

Therefore, these features, in combination with other features of claims 1, 5 and 17, are not anticipated by, nor made obvious over, the closest prior art of record Aboaf et al. (US 6,038,106) and/or Watanabe et al. (US 6,150,046).

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4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


*Conclusion*

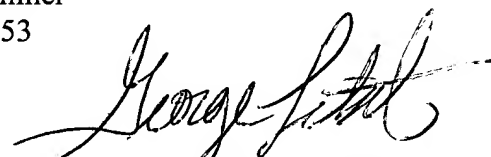
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Magee whose telephone number is (571) 272-7592. The examiner can normally be reached on M-F, 8: 00 am-5: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 18, 2005

  
Christopher R. Magee  
Patent Examiner  
Art Unit 2653

  
GEORGE J. LETSCHER  
PRIMARY EXAMINER